TERMINAL APPARATUS, AUDIO SYSTEM, AND METHOD FOR CONTROLLING SOUND VOLUME OF EXTERNAL SPEAKER THEREOF

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application claims priority from U.S. Provisional Patent Application No. 62/198,359, filed on Jul. 29, 2015, in the U.S. Patent and Trademark Office, and Korean Patent Application No. 10-2015-0124718, filed on Sep. 3, 2015, in the Korean Intellectual Property Office, the disclosures of which are incorporated herein by reference in its entirety.

BACKGROUND

[0002] 1. Field

[0003] Apparatuses and methods consistent with exemplary embodiments relate to a terminal apparatus, an audio system, and a method for controlling a sound volume of an external speaker thereof, and more particularly, to a terminal apparatus, an audio system, and a method for controlling a sound volume of an external speaker thereof, for simultaneously adjusting sound volumes of a plurality of external speaker apparatuses desired by a user.

[0004] 2. Related Art

[0005] Recently, by virtue of the rapid growth of industries, all electronic apparatuses have been changed from analogue to digital, and digital acoustic apparatuses have also rapidly come into widespread use to enhance sound quality.

[0006] A typical speaker apparatus is capable of simply reproducing a sound source provided by wire. More recently, speaker apparatuses have become wirelessly connected to an access point (AP) and are capable of outputting sound content stored in a cloud server. In addition, such recent speaker apparatuses are separately arranged in a plurality of spaces so as to output the same content or to output different contents.

[0007] In such an environment, a user is inconvenienced by repeatedly and separately adjusting a sound volume of each speaker apparatus in order to adjust sound volumes of a plurality of speaker apparatuses.

SUMMARY

[0008] Exemplary embodiments may address the above disadvantages and other disadvantages not described above. Moreover, the exemplary embodiments are not required to address the disadvantages described above, and an exemplary embodiment may not address any of the problems described above.

[0009] Exemplary embodiments provide a terminal apparatus, an audio system, and a method for controlling a sound volume of an external speaker thereof, for simultaneously adjusting sound volumes of a plurality of external speaker apparatuses desired by a user.

[0010] According to an aspect of an exemplary embodiment, a sound volume outputting system includes a plurality of speaker apparatuses, and a user terminal apparatus configured to display a plurality of first user interface (UI) elements for adjusting respective sound volumes of the plurality of speaker apparatuses and a plurality of second UI elements for receiving a selection of a speaker apparatus of the plurality of speaker apparatuses, to group speaker apparatuses of the plurality of speaker apparatuses, the grouped speaker apparatuses corresponding to selected UI elements from among the plurality of second UI elements, to receive sound volume adjusting input through one of the plurality of first UI elements corresponding to any one of the plurality of grouped speaker apparatuses, and to control to provide a sound volume adjusting command corresponding to the sound volume adjusting input to adjust a volume of the grouped speaker apparatuses.

[0011] Each of the plurality of speaker apparatuses may separately receive and output sound source content from an external server.

[0012] According to an aspect of another exemplary embodiment, a user terminal apparatus includes a touchscreen configured to display a plurality of first user interface (UI) elements for adjusting respective sound volumes of the plurality of speaker apparatuses and a plurality of second UI elements for receiving a selection of a speaker apparatus of the plurality of speaker apparatuses, to group speaker apparatuses of the plurality of speaker apparatuses, the grouped speaker apparatuses corresponding to selected UI elements from among the plurality of second UI elements, and to receive sound volume adjusting input through one of the plurality of first UI elements corresponding to any one of the plurality of grouped speaker apparatuses, and a controller configured to change all first UI elements of the grouped speaker apparatuses based on the sound volume adjusting input.

[0013] The user terminal apparatus may further include a communication interface configured to transmit a sound volume adjusting command corresponding to the sound volume adjusting input to the plurality of grouped speaker apparatuses based on the sound volume adjusting input.

[0014] The sound volume adjusting manipulation may be a mute input, and the controller may control the communication interface to transmit a mute command to the grouped speaker apparatuses

[0015] The user terminal apparatus may further include a sound volume adjusting button disposed on a lateral surface of the user terminal apparatus, wherein the controller may control the touchscreen to change all first UI elements of the grouped speaker apparatuses according to sound volume adjusting input through the sound volume adjusting button.

[0016] The plurality of first UI elements may include a bar and bars and pointers moveable on the bars, and the second UI element may be a check box.

[0017] The touchscreen may further include a plurality of third UI elements for receiving selection of a mute command to mute each of the plurality of speaker apparatuses.

[0018] The touchscreen may further display a fourth UI element for displaying information of content that is currently being reproduced by the plurality of speaker apparatuses.

[0019] The user terminal apparatus may further include a communication interface wirelessly connected to an access point and configured to receive apparatus information from a plurality of speaker apparatuses connected to the access point.

[0020] The communication interface may receive reproduced content information from the plurality of speaker apparatuses connected to the access point; and the touchscreen may display only a first UI element and a second UI